

DOCUMENT RESUME

ED 167 237

ES 009 749

TITLE Cerebral Dominance and Its Psychological and Educational Implications: An ERIC Abstract Bibliography.

INSTITUTION ERIC Clearinghouse on Early Childhood Education, Urbana, Ill.

SPONS AGENCY National Inst. of Education (DEEW), Washington, D.C.

PUB DATE Jan 78

CONTRACT 400-78-0008

NOTE 52p.; Not available in hard copy due to small print size

AVAILABLE FROM ERIC Clearinghouse on Early Childhood Education, University of Illinois, 805 West Pennsylvania Avenue, Urbana, Illinois 61801 (Catalog #173, \$2.00)

EDRS PRICE MF-\$0.83 Plus Postage. HC Not Available from EDRS.

DESCRIPTORS *Cerebral Dominance; Child Development; Educational Psychology; Educational Research; *Lateral Dominance; *Learning Processes; *Neurological Organization; *Psychological Characteristics; Psychological Studies

ABSTRACT

This abstract bibliography cites recent ERIC documents and journal articles concerning the differentiated functioning of the brain hemispheres. Entries include resumes from Resources in Education (RIE), October 1973 through December 1977, and citations from Current Index to Journals in Education (CIJE), November 1974 through December 1977. (Author/BE)

 * Reproductions supplied by EDRS are the best that can be made *
 * from the original document. *

PS009 749

ED167237

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

CEREBRAL DOMINANCE AND ITS PSYCHOLOGICAL AND EDUCATIONAL IMPLICATIONS:
AN ERIC ABSTRACT BIBLIOGRAPHY

BEST COPY AVAILABLE

Available from:
ERIC Clearinghouse on
Early Childhood Education
University of Illinois
805 West Pennsylvania Avenue
Urbana, Illinois 61801

Price: \$2.00 Catalog #173

January 1978

The material in this publication was prepared pursuant to a contract with the National Institute of Education, U.S. Department of Health, Education and Welfare. Contractors undertaking such projects under government sponsorship are encouraged to express freely their judgement in professional and technical matters. Prior to publication, the manuscript was submitted to the Area Committee for Early Childhood Education at the University of Illinois for critical review and determination of professional competence. This publication has met such standards. Points of view or opinions, however, do not necessarily represent the official view or opinions of either the Area Committee or the National Institute of Education.

INTRODUCTION

This abstract bibliography cites recent ERIC documents and journal articles concerning the differentiated functioning of the brain hemispheres. Entries include resumes from Resources in Education (RIE), October 1973 through December 1977, and citations from Current Index to Journals in Education (CIJE), November 1974 through December 1977.

Most ED-numbered documents are available on microfiche and hard (paper) copy from the ERIC Document Reproduction Service (EDRS); order information is provided at the end of this publication. If a document is not available from EDRS, information for ordering it from another source is given in the resume. Journal articles are available only in the journals cited, not through the ERIC system. CIJE includes a list of the complete titles and ordering addresses for all journals indexed.

EJ163169 SPS05790

Education and Transpersonal Relations: A Research Agenda
Roberts, Thomas B.

Simulation and Games, 8, 1, 7-28 Mar 77

Transpersonal psychology, extending beyond the traditional paradigm of educational psychology, opens the way to investigation of more complete theories of learning, involving bio-feedback, ego-transcendence, and the range of human abilities influenced by different brain wave states. (JMB)

Descriptors: *Educational Psychology/ *Cerebral Dominance/ *Experimental Psychology/ *Mysticism/ *Learning Theories/ Educational Trends/ Fantasy/ Physical Education/ Self Concept/ Mental Health

Identifiers: *Transpersonal Psychology/ Parapsychology/ Meditation/ Bio Feedback/ Ego Transcendence

EJ162812 PS505843

Acuity and Sighting Dominance in Children and Adults

Dziadosz, Gregory M.; Schaller, M. Joseph

Developmental Psychology, 13, 3, 288 May 77

The sighting dominance and acuity of second-, fourth-, and seventh-grade children, and of college students were measured. Results showed a right versus left sighting dominance occurring in a ratio of 2:1 at each age. Patterns of acuity dominance also remained constant across grades. (Author/JMB)

Descriptors: *Elementary School Students/ *Junior High School Students/ *College Students/ *Visual Acuity/ *Lateral Dominance/ *Vision/ Age Differences

EJ162800 PS505831

Selective Listening Asymmetry in Preschool Children

Hiscock, Merrill; Kinsbourne, Marcel

Developmental Psychology, 13, 3, 217-224 May 77

Forty-two right-handed preschool children listened to dichotic presentations of digit names and were told to report only the digit arriving at the designated ear. A significant right-ear superiority was found, demonstrating a left lateralization of verbal processing in children as young as three years of age. (Author/JMB)

Descriptors: *Preschool Education/ *Lateral Dominance/ *Listening Tests/ *Cerebral Dominance/ *Verbal Development

EJ162721 PS505752

A Cardiac Measure of Cerebral Asymmetries in Infant Auditory Perception

Glanville, Bradley B.; And Others

Developmental Psychology, 13, 1, 54-59 Jan 77

Studied the utility of cardiac habituation/response recovery as a measure for assessing infant cerebral asymmetries in

auditory perception on a dichotic listening test. (Author/SB)
Descriptors: *Infants/ *Heart Rate/ *Auditory Perception/ *Measurement Techniques/ *Cerebral Dominance/ Research

EJ162718 PS505749

Sex Differences in Mental Abilities. Hemispheric Lateralization, and Rate of Physical Growth at Adolescence

Wainer, Deborah P.

Developmental Psychology, 13, 1, 29-38 Jan 77

The central thesis of this study was that maturational rate, or its physiological correlates, influences the development of the organization of higher cortical functions and is therefore an important determinant of sex differences in verbal and spatial abilities. (Author/SB)

Descriptors: *Sex Differences/ *Physical Development/ *Cognitive Development/ *Cerebral Dominance/ *Research, Elementary/ Secondary Education/ Spatial Relationship/ Verbal Ability

EJ162673 PS505704

Cerebral Dominance in Disabled Readers, Good Readers, and Gifted Children: Search for a Valid Model

Kershner, John R.

Child Development, 48, 1, 61-67 Mar 77

Disabled readers, good readers, and gifted children were compared on their recognition of words presented tachistoscopically under simultaneous, bilateral viewing conditions. Poor readers showed inferior right-field performance compared with gifted and good readers, but when IQ was covaried, they showed higher left-field scores and lower visual field difference scores than gifted children. (Author/JMB)

Descriptors: *Elementary Education/ *Reading Ability/ *Recognition/ *Cerebral Dominance/ Tachistoscopes

EJ161516 AA525805

Hemisphere Dominance and the Art Process

Foster, Suzanne

Art Education, 30, 2, 20-9 Feb 77

Descriptors: *Neurological Defects/ *Cerebral Dominance/ *Human Development/ Neurological Organization/ Psychomotor Skills/ Creativity/ Art Education

EJ161249 SP505644

The Effects of Instruction and Practice on the Skill of Throwing with the Nondominant Hand

Bailey, Jim H.

Research Quarterly, 47, 4, 864-8 Dec 76

Descriptors: *Lateral Dominance/ *Skill Development/
*Perceptual Motor Learning/ Motor Development/ Nonverbal Tests
/ Skill Analysis/ Psychomotor Skills/ Neurological
Organization

EJ160320 CS707813

Lessons from Pooh--And the Judging of Essay Contests

Nelms, Ben F., Editor

English Education, 8, 3, 185, 187, 189, 191 Spr 77

Contains an essay by Catherine G. Beaham on the importance of fantasy books as an escape from the restrictive logic which confines society. (DD)

Descriptors: *Fantasy/ *Imagination/ *Childrens Literature/
*English Education/ *Cerebral Dominance/ Neurological
Organization/ Emotional Response/ Elementary Education

EJ160314 CS707807

Toward a New English Teacher

Nelson, G. Lynn

English Education, 8, 3, 131-8 Spr 77

Discusses research into the bi-modal nature of the human brain and what it suggests regarding the inclusion of feeling and imagination in the teaching of English. (DD)

Descriptors: *English Education/ *English Instruction/
*Cerebral Dominance/ *Neurological Organization/ *Educational
Theories/ Emotional Response/ Imagination/ Fantasy/ Higher
Education

EJ159943 AA525982

Ear Differences in Evaluating Emotional Tones of Voice and Verbal Content

Safer, Martin A.; Leventhal, Howard

Journal of Experimental Psychology: Human Perception and Performance, 3, 1, 75-82 Feb 77

Two experiments are presented in which lateralization of monaural, auditory input affected the evaluation of verbal passages. Discusses lateral differences in evaluating auditory stimuli in the framework of the left hemisphere's specialization for the holistic processing of objective information and the right hemisphere's specialization for the holistic processing of subjective or emotional information. (Editor/RK)

Descriptors: *Experimental Psychology/ *Verbal Stimuli/
*Lateral Dominance/ *Auditory Perception/ *Emotional Response/
Experiments/ Research Methodology/ Tables (Data)/ Decision

Making/ Psychological Studies

EJ159877 AA525916

Laterality and Intelligence in Relation to Reading Ability

Sawyer, C. E.; Brown, B. J.

Educational Review, 29, 2, 81-6 Feb 77

An interactive relationship between intelligence and right dominance in predicting reading ability is suggested as a reason for the variation of the results reported in the relevant literature. Discusses implications for theory and practice in relation to reading and reading difficulty. (Editor/RK)

Descriptors: *Reading Ability/ *Lateral Dominance/
*Intelligence/ *Educational Research/ *Academic Achievement/
Tables (Data)/ Research Methodology/ Correlation/ Measurement
Instruments/ Intelligence Quotient

EJ158136 AA525621

The Duality of the Mind

Brandwein, Paul; Ornstein, Robert

Instructor, 86, 5, 54-9 Jan 77

What does all the recent and much talked about right brain, left brain research mean to you? Authors conduct a symposium in print in which they discuss the research and its findings, and offer ways to use them in your class. (Editor/RK)

Descriptors: *Symposia/ *Lateral Dominance/ *Neurological
Organization/ *Medical Research/ *Learning Activities/
Educational Strategies/ Teaching Procedures/ Student Teacher
Relationship

EJ157966 AA525451

Putting Our Whole Brain to Use: A Fresh Look at the Creative Process

Garrett, Susan V.

Journal of Creative Behavior, 10, 4, 239-49 76

Defines and examines the creative process and discusses the functions of the left and right hemispheres of the brain. (RK)

Descriptors: *Creative Thinking/ *Convergent Thinking/
*Divergent Thinking/ *Lateral Dominance/ *Information
Processing/ Scientific Research/ Definitions/ Fine Arts/ Play

EJ157745 SP505491

Right-Brained Kids in Left-Brained Schools
Hunter, Madeline

Today's Education, 65, 4, 45-8 Nov-Dec 76

Students who learn well through left hemisphere brain input (oral and written) have minimal practice in using the right hemisphere, while those who are more proficient in right hemisphere (visual) input processing are handicapped by having to use primarily their left brains. (MB)

Descriptors: *Multimedia Instruction/ *Cerebral Dominance/
*Learning Modalities/ Educational Theories/ Research
Utilization/ Educational Practice/ Learning Difficulties

Identifiers: *Hemisphericity

EJ156461 AA525201

Cerebral Laterality and Verbal Processes

Sherman, Jay L.; And Others

Journal of Experimental Psychology: Human Learning and
Memory, 2, 6, 720-27 Nov 76

Research suggests that we process information by way of two distinct and functionally separate coding systems. Their location, somewhat dependent on cerebral laterality, varies in right- and left-handed persons. Tests this dual coding model. (Editor/RK)

Descriptors: *Experimental Psychology/ *Lateral Dominance/
*Memory/ *Information Processing/ *Verbal Stimuli/
Neurological Organization/ Experiments/ Research Methodology/
Tables (Data)/ Word Lists

EJ155655 PS505472

Eye and Hand Dominance in Kindergarten and First-Grade
Children

Van Camp, Sarah S.; Bixby, Matilda B.

Merrill-Palmer Quarterly, 23, 2, 129-139 Apr 77

This study attempted to gather baseline data on a randomly selected population of 353 kindergarten and first-grade children for consistency of response in hand dominance measures and eye dominance measures and for comparison by sex, race, maturity and socioeconomic status. (Author/SB)

Descriptors: *Lateral Dominance/ *Elementary School Students
/ *Maturation/ *Sex Differences/ *Racial Differences/
*Socioeconomic Status/ Research

• EJ152873 AA524509

Metacontrol of Hemispheric Function in Human Split-Brain
Patients

Levy, Jerne; Trevarthen, Colwyn

Journal of Experimental Psychology: Human Perception and
Performance, 2, 3, 299-312 Aug 76

Four commissurotomy patients were tested for ability to

match tachistoscopically presented stimuli with pictures in free vision, according to either structural appearance or functional/conceptual category. (Editor)

Descriptors: *Experimental Psychology/ *Cerebral Dominance/
*Task Performance/ *Response Mode/ *Pattern Recognition/
Research Methodology/ Tables (Data)/ Charts/ Cognitive
Processes

EJ152801 AA524437

Thought and the Brain

Zangwill, O. L.

British Journal of Psychology, 67 pt3, 301-14 Aug 76

Focuses on the traditional field of psychology, on human experience and human behavior, and the ways in which the study of the effects of brain injury may throw light upon their nature. (Author/RK)

Descriptors: *Psychological Studies/ *Lateral Dominance/
*Neurological Organization/ *Mental, Illness/ *Cerebral
Dominance/ Experimental Psychology/ Imagery/ Behavioral
Science Research

Identifiers: *Fechner (Gustav Theodor)

• EJ152232 SE518271

From Piecemeal to Configurational Representation of Faces

Carey, Susan; Diamond, Rhea

Science, 195, 4275, 312-314 Jan 77

Research shows that children of about 10 years can remember photographs of faces upside down almost as well as those shown upright and are easily fooled by simple disguises. This ability to encode orientation-specific configurations of a face may reflect maturational changes in the right cerebral hemisphere. (MLH)

Descriptors: *Child Development/ *Neurological Organization/
*Psychological Studies/ *Scientific Research/ *Visual
Discrimination/ Cerebral Dominance/ Learning/ Neurology/
Science Education

EJ152231 SE518270

Developmental Dyslexia: Two Right Hemispheres and None Left

Witelson, Sandra F.

Science, 195, 4275, 309-311 Jan 77

Research shows that persons with dyslexia may have bilateral neural involvement in spatial processing that interferes with the left hemisphere's processing of its own specialized functions. This results in deficient linguistic, sequential cognitive processing. (MLH)

Descriptors: *Cerebral Dominance/ *Dyslexia/ *Neurolinguist-
ics/ *Psychological Studies/ *Scientific Research/
Neurological Organization/ Neurology/ Reading Difficulty

EJ150822 TM502484

Sex Differences in Cognition

Fairweather, Hugh

Cognition, 4, 3, 231-80 Sep 76

Sex differences in cognitive skills, grouped into motor, spatial and linguistic areas, are assessed in relation to current theories of cerebral lateralization. Few convincing sex differences exist, either overall, or in interactions with functional localization. Qualifying criteria include age, birth order, culture, sex of experimenter and sex role pressure. (MV)

Descriptors: *Cognitive Processes/ *Sex Differences/
*Cognitive Ability/ *Cerebral Dominance/ Cognitive Development
/ Learning Processes/ Perception/ Psychomotor Skills/ Language
Skills/ Lateral Dominance

Identifiers: Spatial Skills

EJ149060 SP505060

Help--My Eyes Are Melting

Rennels, Max R.

Viewpoints, 52, 3, 63-73 May 76

To reverse the general decline in school performance, educationists must restructure learning experiences to balance the present fragmented and specialized linear processes with the sensory/spatial processes, so that an educational system commensurate with the neutral balance of both cerebral hemispheres might emerge. (MB)

Descriptors: *Art Education/ *Physiology/ *Neurological
Organization/ *Lateral Dominance/ *Perceptual Development/
Educational Theories/ Sensory Deprivation/ Sensory Integration
/ Learning Processes

EJ147992 CS712024

Evaluation on Acceptance

Samples, Robert

Media and Methods, 13, 3, 20-22 Nov 76

Supports the notion that student creativity flourishes with teachers' intuitive acceptance of performance but withers in an atmosphere of national evaluation. (Author/KS)

Descriptors: *Teacher Influence/ *Student Teacher
Relationship/ *Student Evaluation/ *Positive Reinforcement/
Elementary Secondary Education/ Cerebral Dominance

12

EJ147196 SE517558

Variations in Writing Posture and Cerebral Organization

Levy, Jerre; Reid, Marylou

Science, 194, 4262, 337-339 Oct 76

Investigated the relationship between hand writing posture and cerebral dominance of 48 left handed writers and 25 right handed writers. Determined that cerebral dominance is related

to handedness and to whether or not the writing hand posture is normal or inverted. (SL)

Descriptors: *Cerebral Dominance/ *Handwriting/ *Learning/
*Left Handed Writer/ *Lateral Dominance/ *Research/
Educational Research/ Human Posture/ Neurological Organization
/ Psychomotor Skills

Identifiers: Research Reports

EJ145341 SE517179

Behavior: The Emotional Right Hemisphere

Science News, 110, 3, 40 Jul 76

Discusses a controlled experiment in which right and left hemisphere activity determines selected emotional responses to visual stimuli. Findings suggest that each hemisphere has a distinct emotional response. Both hemispheres contribute to the individual's perception of the world. (EB)

Descriptors: *Behavior/ *Cerebral Dominance/ *Learning/
*Perceptual Development/ *Visual Perception/ Sensory
Integration

EJ138902 AA522787

Classroom Seating and Psychopathology: Some Initial Data

Gur, Ruben C.; And Others

Journal of Abnormal Psychology, 85, 1, 122-24 Feb 76

The purpose of the present investigation was to extend previous findings in three areas, further relating hemisphericity to psychopathology. Based on the findings relating hemisphericity to psychopathology and to classroom seating, it was expected that there would be a relation between classroom seating and psychopathology. (Author)

Descriptors: *Psychopathology/ *Classroom Environment/
*Cerebral Dominance/ Research Methodology

• EJ138136 EC081837

Performances of Articulatory Defective, Minimal Brain Dysfunctioning, and Normal Children on Dichotic Ear Preference, Laterality, and Fine-Motor Skills Tasks

Sommers, Ronald K.; And Others

Journal of Special Education, 10, 1, 5-14 Spr 76

Descriptors: *Speech Handicapped/ *Minimally Brain Injured/
*Articulation (Speech)/ *Cerebral Dominance/ Exceptional Child
Research/ Learning Disabilities/ Perceptual Motor Coordination
Identifiers: Dichotic Listening

EJ136220 EC082352

Reading and Laterality Revisited

Kershner, John R.

Journal of Special Education, 9, 3, 269-79 F 75

Reviewed is research on laterality and its relationship with reading in normal and learning disabled children. (CL)

Descriptors: *Learning Disabilities/ *Cerebral Dominance/ *Neurological Organization/ *Reading Research/ *Lateral Dominance/ Exceptional Child Research/ General Education/ Research Reviews (Publications)/ Reading/ Perceptual Development

EJ136134 EC081299

Research of Interest

McGlannan, Frances, Ed.

Journal of Learning Disabilities, 9, 2, 81-4 Feb 76

Summarized are three research articles on the following topics: the role of pupil size in communication, educational aspects of hemispheric specialization, and the effects of maternal psychological stress on the fetus. (JB)

Descriptors: *Handicapped Children/ *Eyes/ *Nonverbal Communication/ *Cerebral Dominance/ *Prenatal Influences/ *Stress Variables/ Exceptional Child Research/ Research Reviews (Publications)/ Cognitive Processes

EJ135498 AA522379

Hemisphere Differences in the Effects of Cuing in Visual Recognition Tasks

Cohen, Gillian

Journal of Experimental Psychology: Human Perception and Performance, 1, 4, 366-73 Nov 75

The experiments reported here investigate the effects of different kinds of set on hemisphere differences, and confirm that, in some conditions, the hemispheric asymmetry in a particular task may shift when cuing establishes an attentional set. (Author)

Descriptors: *Experimental Psychology/ *Psychological Studies/ *Word Recognition/ *Cues/ *Lateral Dominance/ Research Methodology/ Tables (Data)

EJ135479 AA522360

Hemispheric Processing Differences Revealed by Differential Conditioning and Reaction Time Performance

Hellige, Joseph

Journal of Experimental Psychology: General, 104, 4, 309-26 Dec 75

Two different experimental procedures were used to examine (a) information-processing differences between two groups of subjects (Cs versus Vs) identified by the form of their conditioned eyeblinks; (b) information-processing differences

between the right and left cerebral hemispheres; and (c) parallels between hypothesized C-V differences and right-left hemisphere differences. (Author)

Descriptors: *Experimental Psychology/ *Psychological Studies/ *Reaction Time/ *Lateral Dominance/ *Information Processing/ Research Methodology/ Diagrams

EJ133913 AA522245

Laterality and Reading Attainment

Thomson, M.

British Journal of Educational Psychology, 45 pt3, 317-21 Nov 75

Sixty children with reading ages 18 months or more below their chronological ages, were compared with a control group of the same size who had average or above average reading ages. Both groups completed a laterality questionnaire relating to different aspects of perception and handedness. (Editor)

Descriptors: *Educational Psychology/ *Lateral Dominance/ *Reading Achievement/ *Reading Difficulty/ Research Methodology/ Tables (Data)

EJ132581 EC080665

Anomia-Pathological Verbal Dominance. Agnostic Behavior in Anomia: A Case of Pathological Verbal Dominance

McGlannan, Frances, Ed.

Journal of Learning Disabilities, 8, 10, 624-9 Dec 75

Summarized are three articles concerned with research on neurological aspects of learning disabilities entitled "Anomia-A Case of Pathological Verbal Dominance;" "Brain-Right Hemisphere-Man's So Called 'Minor Hemisphere:'" "Neurology-A Special Neurological Examination of Children with Learning Disabilities". (DB)

Descriptors: *Learning Disabilities/ *Neurology/ *Cerebral Dominance/ *Medical Evaluation/ Exceptional Child Research/ Neurologically Handicapped/ Minimally Brain Injured/ Language Handicapped

EJ132534 EA506887

Cerebral Symmetry: An Urgent Concern for Education

Rennels, Max R.

Phi Delta Kappan, 57, 7, 471-472 Mar 76

Descriptors: *Neurological Organization/ *Human Development/ *Cerebral Dominance/ *Perceptual Development/ *Cognitive Development/ Lateral Dominance/ Cognitive Processes/ Elementary Secondary Education

EJ131932 UD504017

Developmental Trends in Directionality of Drawing in Jewish and Arab Israeli Children

Lieblich, Amia; And Others

Journal of Cross-Cultural Psychology, 6, 4, 504-511 Dec 75

Discusses a study in which Jewish and Arab Israeli children attending pre-kindergarten to eighth grade were required to copy a vertical and a horizontal line, and also in which the intelligence of partial samples was assessed. It was found that starting from the right was correlated with higher intelligence for Arabs and with lower intelligence for Jews. (Author/JM)

Descriptors: *Individual Development/ *Perceptual Motor Learning/ *Arabs/ *Jews/ Cross Cultural Studies/ Psychological Studies/ Lateral Dominance/ Preschool Children/ Students

Identifiers: *Israeli

EJ131658 SP504159

Children's Lateralizations of Images of the Self, Others, and Objects

Coryell, Jane

American Journal of Occupational Therapy, 29, 9, 535-8 Oct 75

This article describes tests which examined at what ages children could correctly identify right and left sides of pictures of themselves, another person, or an object. (CD)

Descriptors: *Visual Discrimination/ *Maturation/ *Developmental Psychology/ *Child Development/ *Developmental Tasks/ Lateral Dominance

EJ131156 FL508486

Broca's Area: A Problem in Language-Brain Relationships

Whitaker, H. A.; Selnes, O. A.

Linguistics, 154/155, 91-104 Jun 15 75

How significantly is Broca's Area related to speech? It is considered here to be definitely a component in the language mechanism of the brain. It is also stated that this area is unique to people and that it has no unitary function, yet it is specialized for certain expressive (motor) functions. (SCC)

Descriptors: *Neurological Organization/ *Cerebral Dominance/ *Neurolinguistics/ *Aphasia/ Physiology/ Speech Handicapped/ Cognitive Processes/ Language Handicaps/ Language Research/ Psycholinguistics

Identifiers: *Brocas Area

EJ127120 AA521514

Left-Brain, Right-Brain

Sperry, Roger W.

Saturday Review, 2, 23, 30-3 Aug 9 75

Our understanding of mind-brain interaction has been vastly altered by studies that now offer a clearer picture of the two brain hemispheres and their specialized forms of intellect. (Editor)

Descriptors: *Neurological Organization/ *Cerebral Dominance/ *Medical Research/ *Scientific Research/ *Intelligence

EJ123072 PS504213

Some Boundary Conditions for Laterality Effects in Children

Turner, Suzanne; Miller, Leon K.

Developmental Psychology, 11, 3, 342-352 May 75

Investigates the different levels in the visual system at which laterality effects may be elicited in children and adults in five different experiments. (LLK)

Descriptors: *Lateral Dominance/ *Elementary Education/ *Higher Education/ *Visual Discrimination/ Visual Stimuli/ Elementary School Students/ College Students/ Age Differences

EJ122735 EA506274

Seeking Synergism for Man's Two-Hemisphere Brain. The UMass Mess. Continued...

Konicek, Richard D.

Phi Delta Kappan, 57, 1, 37-39 Sep 75

Advocates the creation of a synergistic mind system by educating people to use, understand, and appreciate both hemispheres of the brain. (IRT)

Descriptors: *Self Actualization/ *Educational Alternatives/ *Individual Development/ *Psychological Characteristics/ *Cerebral Dominance/ Self Expression/ Elementary Secondary Education/ Higher Education

EJ120900 EC072560

Of Course I'm Not Stupid: I Just Don't Know My Right From My Left

Lockavitch, Joseph F.

Academic Therapy, 10, 2, 159-67 Win 74/75

The author discusses spatial confusion accompanied by difficulty with the concepts of laterality and directionality, which is said to be a common trait among children who are nonreaders. (GW)

Descriptors: *Reading Difficulty/ *Cerebral Dominance/ Exceptional Child Education/ Learning Disabilities/ Concept Formation/ Remedial Reading

EJ120288 AA520917

A note on interactions of ears, hands and cerebral hemispheres in a musical performance task requiring bimanual coordination

Gates, Anne; Bradshaw, John L.

British Journal of Psychology, 66 Pt. 2, 165-68 May 75

The probable dominance of contralateral hand control and contralateral representation of auditory input are important aspects of the study of cerebral function. A musical task involving bimanual coordination allowed investigation of both the above factors in a crossed and uncrossed sensorimotor relationship. (Author)

Descriptors: *Psychological Studies/ *Music Activities/ *Task Performance/ *Psychomotor Skills/ *Cerebral Dominance/ Object Manipulation/ Tables (Data)

EJ119302 EC071788

The Electrophysiologic Assessment of Hemispheric Asymmetries During Speech

Grabow, Jack D.; Elliott, Frederick W.

Journal of Speech and Hearing Research, 17, 1, 64-72 Mar 74

Descriptors: *Speech Skills/ *Electroencephalography/ *Cerebral Dominance/ Expressive Language/ Research Projects/ Young Adults

EJ119295 EC071781

Developmental Comparison of Vowels and Consonants in Dichotic Listening

Goodglass, Harold

Journal of Speech and Hearing Research, 16, 4, 744-52 Dec 73

Descriptors: *Cerebral Dominance/ *Listening/ General Education/ Childhood/ Aural Learning/ Age Differences

EJ118741 AA520840

Asymmetry of Bilateral Transfer

Hicks, Robert E.

American Journal of Psychology, 87, 4, 667-74 Dec 74

The present study was designed to give an unambiguous assessment of a possible asymmetry in bilateral transfer of the skill of printing inverted and reversed letters. (Author)

Descriptors: *Psychological Studies/ *Cerebral Dominance/ *Printing/ *Research Methodology

EJ118655 AA520754

Educational Aspects of Hemispheric Specialization

Bogen, Joseph E.

UCLA Educator, 17, 2, 24-32 Spr 75

Article discussed some educational implications of hemispheric lateralization of the human brain. (Editor/RK)

Descriptors: *Educational Practice/ *Cerebral Dominance/ *Neurological Organization/ *Cognitive Processes/ *Lateral Dominance/ Tables (Data)/ Physical Characteristics/ Educational Research/ Specialization/ Diagrams

EJ118654 AA520753

The Major Hemisphere

Krashinsky, Stephen D.

UCLA Educator, 17, 2, 17-23 Spr 75

Article investigated a more precise characterization of dominance with the focus on recent research on the brain's left hemisphere. (Author/RK)

Descriptors: *Lateral Dominance/ *Educational Research/ *Physical Characteristics/ *Perceptual Development/ *Cerebral Dominance

EJ118653 AA520752

Man's So-Called "Minor" Hemisphere

Nebes, Robert D.

UCLA Educator, 17, 2, 13-6 Spr 75

Author outlined the characteristics of the right hemisphere of the brain and compared them to those of the left hemisphere. (RK)

Descriptors: *Educational Research/ *Neurological Organization/ *Lateral Dominance/ *Mental Development

EJ118652 AA520751

Review of the Split Brain

Gazzaniga, Michael S.

UCLA Educator, 17, 2, 9-12 Spr 75

Article reviewed some recent research on hemispheric lateralization of the human brain. (Editor/RK)

Descriptors: *Medical Research/ *Neurological Organization/ *Lateral Dominance/ *Mental Development/ *Educational Objectives

EJ113475 TM501625

Relationships among Perceptual-Motor Tasks: Tracing and Copying

Bernbaum, Marcia; And Others

Journal of Educational Psychology, 66, 5, 731-5 Oct 74

Subjects of several ages were asked to copy, trace, or point to the beginning of a set of shapes. The aim was to determine the extent to which sequential behavior was consistent across tasks. With one notable exception, behavior was consistent. (Author/BUG)

Descriptors: *Perceptual Motor Coordination/ *Lateral Dominance/ *Neurological Organization/ *Task Performance/ *Sequential Approach/ Task Analysis/ Transfer of Training/ Generalization

EJ118408 TM501558

Classroom Seating and Functional Brain Asymmetry

Gur, Raquel E.; And Others

Journal of Educational Psychology, 67, 1, 151-3 Feb 75

This study examined the relationship between functional brain asymmetry, as measured by the characteristic direction of eye movements in response to face-to-face questioning, and sitting on the left or right side of a classroom. Results are congruent with other findings comparing right and left movers. (Author/BUG)

Descriptors: *Classroom Arrangement/ *Eye Movements/ *Cerebral Dominance/ *Lateral Dominance/ Neurological Organization/ Higher Education/ Classes (Groups of Students)/ Selection/ Intellectual Disciplines

EJ118042 PS504031

The Effect of Cerebral Dominance on Time Sharing between Speaking and Tapping by Preschool Children

Kinsbourne, Marcel; McMurray, Julie

Child Development, 46, 1, 240-242 Mar 75

Descriptors: *Lateral Dominance/ *Motor Development/ *Preschool Children/ *Verbal Communication/ *Adults

EJ115335 AA520629

Directionality Trends as a Function of Handedness and of Reading and Writing Habits

Dreman, S. B.

American Journal of Psychology, 87, 1-2, 247-53 Mar/Jun 74

The present paper reviews directionality trends in the drawing of horizontally extended figures and specifically investigates the influence of reading and writing habits and of handedness on directionality in adults. (Author)

Descriptors: *Reading Habits/ *Writing/ *Psychological

Studies/ *Trend Analysis/ *Lateral Dominance/ Research Methodology/ Tables (Data)

EJ113063 PS503879

Laterality and Social Maturity in Four-Year Old Children

Nass, Lucille

Probe, 1, 6, 18-23 W 74

Descriptors: *Social Development/ *Preschool Children/ *Lateral Dominance/ *Sex Differences/ *Physical Development/ Age Differences/ Maturation

EJ111988 AA520124

Retest reliabilities and interrelationship of the Annett Hand Preference Questionnaire and the Edinburgh Handedness Inventory

McMeekan, Elizabeth R. L.; Lishman, W. A.

British Journal of Psychology, 66 pt1, 53-9 Feb 75

The present study was undertaken to ascertain the test-retest reliabilities of the Annett Hand Preference Questionnaire and the Edinburgh Handedness Inventory and to determine the relationship between the two tests and to attempt some assessment of their relative practical values. (Author/RK)

Descriptors: *Psychological Studies/ *Measurement Instruments/ *Test Reliability/ *Questionnaires/ *Lateral Dominance/ Research Methodology/ Tables (Data)

EJ111987 AA520123

Handedness and controlled movement

Flowers, Kenneth

British Journal of Psychology, 66 pt1, 39-52 Feb 75

Subjects classified according to degree of hand preference were tested with both hands on two tasks of controlled movement. (Editor)

Descriptors: *Psychological Studies/ *Lateral Dominance/ *Psychomotor Skills/ *Skill Analysis/ *Task Performance/ Research Methodology/ Diagrams/ Tables (Data)

EJ104973 SE512694

Brain Asymmetry

Iannazzi, Marie

Science Teacher, 42, 1, 47-48 Jan 75

Describes two activities dealing with cerebral dominance as a complement to a study of the nervous system which has students taking part in simple research oriented experiments, collecting data and interpreting results. (BR)

Descriptors: *Cerebral Dominance/ *Human Body/ *Science Education/ *Science Activities/ Biology/ General Science/ Instruction/ Instructional Materials/ Neurological Organization

EJ109964 SE512685

Educating for Both Sides of the Human Mind

Samples, Bob

Science Teacher, 42, 1, 21-23 Jan 75

Author describes utilizing both cerebral hemispheres of the brain (the intuitive-metaphoric and rational-logical mind) in teaching science so that creativity in students can be fostered. (BR)

Descriptors: *Cerebral Dominance/ *Science Education/ *Secondary School Science/ Creative Thinking/ Elementary School Science/ Instruction/ Logical Thinking/ Learning Processes/ Science Instruction

EJ107370 EC070081

A Neuropsychological Investigation of "Functional Disorders of Speech Articulation"

Frisch, Gloria R.; Handler, Leonard

Journal of Speech and Hearing Research, 17, 3, 432-45 Sep 74

Descriptors: *Speech Handicapped/ *Childhood/ *Articulation (Speech)/ *Lateral Dominance/ *Neurological Defects/ Exceptional Child Research/ Neurology/ Standardized Tests

EJ106348 SE511977

Sinister Psychology - Tests And Studies Indicate That Left-Handedness Need Not and Should Not Be Considered an Undesirable Trait

Trotter, Robert J.

Science News, 106, 14, 220-222 Oct 74

Handedness, or laterality, is discussed and research study concerned with the psychological evaluation of left-handed children is reported. (DT)

Descriptors: *Human Body/ *Lateral Dominance/ *Left Handed Writer/ *Psychology/ *Research/ Biological Sciences/ Sciences

EJ104248 EC062301

A Review of Measures of Lateralized Cerebral Hemispheric Functions

McNeill, Malcolm R.; Hamre, C. E.

Journal of Learning Disabilities, 7, 6, 375-83 Jun/Jul 74

The authors review the history and current status of six areas of inquiry into lateralized cerebral hemispheric functions (cerebral dominance) related to language and learning disabilities. (LC)

Descriptors: *Exceptional Child Research/ *Learning Disabilities/ *Research Reviews (Publications)/ *Medical Research/ *Lateral Dominance/ Auditory Perception/ Visual Perception/ Physiology/ Neurology

EJ104085 CS70631S

Dyslexia: A Sure Cure

Freshour, Frank W.

Elementary English, 51, 6, 864-5,893 Sep 74

Dyslexia appears to be a meaningless label attached to children with reading problems; the label only leads to confusion rather than clarity. (JH)

Descriptors: *Dyslexia/ *Reading Difficulty/ *Reading Research/ Lateral Dominance/ Teaching Programs/ Reading/ Learning Difficulties/ Reading Clinics
Identifiers: *Dyslexia Clinic

EJ101984 AA518732

Dissociation of Hemifield Reaction Time Differences from Verbal Stimulus Directionality

Isseroff, Ami; And Others

Journal of Experimental Psychology, 103, 1, 145-49 Jul 74

In the present study, an attempt was made to clarify whether right visual field superiority, in terms of shorter latencies to verbal material, transcends the directional scanning tendencies associated with the stimuli. (Author)

Descriptors: *Experimental Psychology/ *Reaction Time/ *Verbal Stimuli/ *Cerebral Dominance/ *Visual Perception/ Tables (Data)/ Psychological Studies

EJ099479 EC061600

Recent Advances in the Neurophysiology of Some Specific Cognitive Functions

Rosenthal, Joseph H.

Academic Therapy, 8, 4, 423-8 Sum 73

Reviewed is research in the neurophysiology of cognitive functions as it related to dyslexia. (DB)

Descriptors: *Exceptional Child Research/ *Dyslexia/ *Lateral Dominance/ *Etiology/ *Neurology/ Learning Disabilities/ Research Needs/ Electroencephalography

ED141864 CS501770

Status Report on Speech Research: A Report on the Status and Progress of Studies on the Nature of Speech, Instrumentation for Its Investigation, and Practical Applications, January 1-March 31, 1977.

Haskins Labs., New Haven, Conn.

77 248p.

Report No.: SR-49 (1977)

EDRS Price MF-\$0.83 HC-\$12.71 Plus Postage.

This report is one of a regular series about the status and progress of studies on the nature of speech, instrumentation for its investigation, and practical applications. The 11 papers discuss the dissociation of spectral and temporal cues to the voicing distinction in initial stopped consonants; perceptual integration and selective attention in speech perception; phonetic recoding and reading difficulty in beginning readers; interactive experiments with a digital pattern playback; the function of strap muscles in speech; the geniohyoid and the role of the strap muscles; syllable synthesis; articulatory movements in vowel-consonant-vowel sequences; measuring laterality effects in dichotic listening; a simple model of response selection in the dichotic two-response paradigm; and acoustic correlates of perceived prominence in unknown utterances. Other sections list publications and reports from Haskins Laboratories and the Defense Documentation Center and the ERIC numbers of earlier reports. (AA)

Descriptors: *Acoustic Phonetics/ *Articulation (Speech)/ *Artificial Speech/ *Audition (Physiology)/ Auditory Perception/ *Beginning Reading/ *Language Research/ Lateral Dominance/ Phonemes/ Phonetics/ Psychoacoustics

ED141699 CG011525

Lateral Eye Movement and Cogitation in Junior High School Students.

Lauria, Mark W.; Wichman, Harvey

74 9p.: Paper presented at the Annual Meeting of the Western Psychological Association (Los Angeles, California, April 8-11, 1976)

EDRS Price MF-\$0.83 HC-\$1.67 Plus Postage.

In a between-subject experimental design, 31 randomly selected junior high school students demonstrated lateral eye movement (LEM) immediately following the administration of each question in a group of questions, designed to alternately activate either the left or the right cerebral hemisphere. Because the subjects showed consistency in their lateral eye movement during a questioning period, it can be concluded that the type of question posed did not have any significant influence on the direction of this movement. Furthermore, 70% of the female subjects displayed lateral eye movement in a particular direction, thus providing data which contradicted previous research findings which have indicated that adult female subjects are inconsistent in their lateral eye movement

when asked a reflective question. (Author)

Descriptors: *Cerebral Dominance/ *Eye Movements/ Eye Voice Span/ Junior High Schools/ Junior High School Students/ Neurological Organization/ *Perceptual Motor Coordination/ *Reactive Behavior/ Research Projects/ *Response Mode/ Sex Differences/ *Visual Perception

ED139530 PS009289

Cerebral Asymmetry in Infants.

Vargha-Khadem, Faraneh; Corballis, Michael C.

Mar 77 23p.: Paper presented at the Biennial Meeting of the Society for Research in Child Development (New Orleans, Louisiana, March 17-20, 1977)

Sponsoring Agency: McGill Univ., Montreal (Quebec).: National Research Council of Canada, Ottawa (Ontario).

Grant No.: NRCC-G-PA-0330

EDRS Price MF-\$0.83 HC-\$1.67 Plus Postage.

This paper describes two experiments conducted to replicate the reported findings (Entus, 1975) that infants demonstrate a right ear advantage in the perception of dichotically presented syllables. Using the non-nutritive sucking paradigm, 48 infants 1-3 months of age were presented with verbal stimuli contingent upon criterion level sucking. Following habituation to a stimulus pair, the sound was changed in one ear and the rate of recovery in criterion sucking was recorded. After a short break, the same procedure was repeated with the shift in the stimulus pair occurring in the opposite ear. In both replication attempts, stimulus material, response criteria and equipment involved in recording response measures were identical to those used by Entus. However, the following control measures were introduced: (1) an adjustable mechanical arm to hold the nipple-transducer; (2) a double blind procedure, rendering the experimenter blind to the order of stimulus combinations; (3) a divider screen, separating the experimenter from the subject in order to eliminate possible biasing interactions; (4) the level of criterion sucking was readjusted and reduced (Experiment 1) in order to ensure conditioning of the sucking response. Analysis of variance on the recovery scores was performed to determine the effects of ears, minutes, sex and order of stimulus change. In both experiments there were no significant differences in the recovery scores between ears. These results are discussed in terms of the possible effects of experimenter bias and lack of adequate controls that could have contributed to the findings reported by Entus. (Author/MS)

Descriptors: *Audition (Physiology)/ Auditory Perception/ *Aural Stimuli/ *Cerebral Dominance/ *Infant Behavior/ *Infants/ Neurological Organization/ *Research Methodology

Identifiers: *Cerebral Asymmetry/ Entus (A K)

ED139368 IR004469

Perceptual Information Processing as a Function of Spatial and Verbal Individual Differences.

Randhawa, Bikkar S.; Hart, Dennis

Iowa Univ., Iowa City, Coll. of Education.

Oct 76 35p.; Paper presented at the National Congress of the Council for Exceptional Children (2nd, Saskatoon, Canada, October, 1976)

Sponsoring Agency: Council for Exceptional Children, Toronto (Ontario), Canadian Committee.

EDRS Price MF-\$0.83 HC-\$2.06 Plus Postage.

Individual differences in perceptual information processing were tested using 327 ten year old children, with verbal tasks representing successive information processing and spatial tasks representing simultaneous information processing. Three sets of tasks, (1) visual/reconstruction (V/R), (2) visual/verbal (V/VL), and (3) verbal/reconstruction (VL/R), were used to assess the interaction of verbal and spatial information processing. Significant spatial verbal interaction was obtained for V/VL and VL/R sets of tasks. Verbal coding of simultaneous information posed more difficulty for the subjects than non-verbal coding of verbal information. (STS)

Descriptors: Cerebral Dominance/ Cognitive Ability/ *Cognitive Processes/ *Individual Characteristics/ Lateral Dominance/ Neurological Defects/ Pattern Recognition/ *Perception/ *Perception Tests/ Space Orientation/ Verbal Ability/ Verbal Stimuli/ Verbal Tests/ Visual Literacy/ Visual Perception/ Visual Stimuli

Identifiers: Gapadol Test

ED137396 TM006202

Testing the Handicapped for Employment Purposes: Adaptations for Persons with Dyslexia. Professional Series 76-4.

van Rijn, Paul

Civil Service Commission, Washington, D.C. Personnel Measurement Research and Development Center.

Mar 76 19p.

EDRS Price MF-\$0.83 HC-\$1.67 Plus Postage.

This report was prepared to provide recommendations for testing adult dyslexics for employment purposes. Since the literature on dyslexia does not deal directly with this topic, the recommendations are based primarily on inferences from what is known about the diagnosis, etiology and treatment of dyslexia in children. A summary of the major findings and issues is provided. In light of the indirect nature of the evidence, the recommendations for testing adult dyslexics should be considered carefully and followed with caution. (Author)

Descriptors: *Adults/ Behavior Problems/ Cognitive Ability/ Diagnostic Tests/ *Dyslexia/ *Employment/ Etiology/ Handicapped/ Handicapped Children/ Heredity/ Lateral Dominance / Occupational Tests/ Reading Difficulty/ Remedial Instruction / *Testing/ Testing Problems

ED137070 SE021925

An EEG Study: Hemispheric Brain Functioning of Six to Eight Year Old Children During Piagetian and Curriculum Tasks with Variation in Presentation Mode.

Kraft, Rosemarie Harter

76 314p.; Ph.D. Dissertation, The Ohio State University; Contains occasional light and broken type

EDRS Price MF-\$0.83 HC-\$16.73 Plus Postage.

Investigated was the lateral asymmetry in children's hemispheric brain functioning during performance of Piagetian and curriculum related tasks. Six subproblems were investigated. Eighteen right-handed children, ages six to eight years old, were given electroencephalograms while performing a battery of tasks: Piagetian conservation tasks, Piagetian temporal tasks, spatial tasks, and curriculum related tasks. It was concluded that tasks which had initial visio-spatial components during the stimulus period tended to elicit right hemispheric activity during that period. If that task had verbal or logical components during the subsequent response period, then left hemispheric activity tended to be elicited; high performers tended to show a greater proportion of right hemispheric activity during the subsequent response period. Consistent patterns of hemispheric functioning were identified in children having the same sex and hand-eye dominance. (RH)

Descriptors: *Concept Formation/ Curriculum/ *Educational Research/ Electroencephalography/ *Elementary Education/ Elementary School Science/ *Lateral Dominance/ *Learning/ *Psychological Studies

Identifiers: *Piagetian Tasks/ Research Reports

ED135847 TM006077

Measurement of Reading Proficiency Among Navy Recruits.

Biersner, Robert J.

Naval Education and Training Command, Pensacola, Fla.

Apr 76 49p.

Report No.: CNETS-R-1-76

EDRS Price MF-\$0.83 HC-\$2.06 Plus Postage.

Several verbal and nonverbal tests and measures, including the General Classification Test (GCT), Mechanical Test (MECH), Arithmetic Test (ARI), Clerical Test (CLER), Raven Progressive Matrices (RPM), age, education level, race, speaking English as a native or second language, modification of hand use, and measures of handedness and eyedness were used to differentiate between a group of recruits enrolled in a Navy remedial reading program and a non-remedial comparison recruit group. These tests and measures were also associated with reading achievement attained by the remedial recruits as measured by pre- and post-test performance on the comprehension subtest of the Gates-MacGinitie Reading Test. The results show that verbal tests (GCT, MECH, and ARI) were correlated highly with the group (remedial/non-remedial) criterion. The data indicate that the RPM, which was associated significantly with the group criteria, was also highly related to these other verbal measures. The CLER test, however, was found to have only a low order correlation with these other verbal tests. CLER scores were found to be correlated significantly with the group criterion. Other nonverbal measures, including education, race, modification of hand use, and consistency of hand and eye use, were also shown to differentiate significantly between the two groups. (Author/MV)

Descriptors: Aptitude Tests/ Demography/ *Enlisted Personnel / Eye Hand Coordination/ Intelligence Tests/ Lateral Dominance / *Nonverbal Tests/ Perception Tests/ *Reading Achievement/ Reading Level/ Reading Skills/ Reading Tests/ *Remedial Reading Programs/ *Screening Tests/ *Verbal Tests

Identifiers: *Navy

ED135168 EC093050

A Comparison of Laterality Between Normal and Dyslexic Readers.

Keefe, Barbara

Apr 76 15p.; Paper presented at the Eastern Psychological Association (April, 1976)

EDRS Price MF-\$0.83 HC-\$1.67 Plus Postage.

Examined with 38 right-handed boys who were either dyslexic or normal readers and matched for age and IQ (mean age both groups=10.6, mean IQ normal readers=106, mean IQ dyslexic readers=105) were the weak, strong, and equal lateralization theories of dyslexia. Cerebral lateralization was measured for linguistic material (digits) using the dichotic listening technique. No difference was found in mean lateralization score between normal and dyslexic groups; however, the distribution of the lateralization scores of the normal Ss appeared unimodal whereas that of the dyslexic Ss appeared

bimodal. The results suggested support for both the weak and the strong lateralization theories of dyslexia. (Author/IM)

Descriptors: *Cerebral Dominance/ *Dyslexia/ Elementary Education/ Exceptional Child Research/ *Lateral Dominance/ Learning Disabilities/ *Reading Research

ED135161 EC093000

Absence of Lateral Dominance and Handedness in Children with Minimal Brain Dysfunction.

Krauthamer, Carole

Apr 76 8p.; Presented at the Annual Meeting of Eastern Psychological Association (47th, April, 1976)

EDRS Price MF-\$0.83 HC-\$1.67 Plus Postage.

Examined with 23 children (7-10 years old) with minimal brain dysfunction was the relation of handedness functions to early and diffuse brain damage. Ss and a group of 25 controls were given the Harris Tests for Lateral Dominance and the Halstead Finger Oscillation test. Results indicated a lowered performance level for both right and left hands and a significant reduction in the occurrence of right handedness coupled with a comparable increase in mixed dominance for the Ss. (Author/IM)

Descriptors: Elementary Education/ Exceptional Child Research/ *Lateral Dominance/ Learning Disabilities/ *Minimally Brain Injured/ Psychomotor Skills

Identifiers: *Handedness

ED135155 EC092983

Verbal Processing Reaction Times in "Normal" and "Poor" Readers.

Culbertson, Jack; And Others

Aug 76 9p.; Paper presented at the International Scientific Conference of IFLD (3rd, Montreal, Canada, August 9-13, 1976)

EDRS Price MF-\$0.83 HC-\$1.67 Plus Postage.

After it had been determined that reaction time (RT) was a sensitive measure of hemispheric dominance in a verbal task performed by normal adult readers, the reaction times of three groups of subjects (20 normal reading college students, 12 normal reading third graders and 11 poor reading grade school students) were compared. Ss were exposed to tachistoscopically presented slides with stimulus words across both visual fields and probe words presented to either the right or left visual fields. Both groups of normal readers exhibited superior right visual field RT while the poor readers failed to display such a superiority. Findings suggested that verbal RT may be a useful screening technique to identify potential problem readers. (Author/CL)

Descriptors: *Cerebral Dominance/ Elementary Education/ Learning Disabilities/ *Reaction Time/ *Reading Difficulty/ *Reading Research/ Verbal Ability

ED134948 CS003204

The Relationship Between Sex Differences and Reading Ability: A Study of Children's Performance in an Israeli Kibbutz System.

Gross, Alice Dzen

76 19p.; Paper presented at the Annual Meeting of the International Reading Association World Congress on Reading (6th, Singapore, August 17-19, 1976)

EDRS Price MF-\$0.83 HC-\$1.67 Plus Postage.

This study tested two long-standing assumptions in education: that reading ability in the elementary grades is differentiated by sex and that boys experience a higher incidence of reading disability than do girls. In addition, three biological explanations for this difference were tested: maturational lag, cerebral dominance, and vulnerability of the male organism. A Hebrew reading-comprehension test was administered to second graders and fifth graders in an Israeli kibbutz, chosen because of the lack of separation of boys and girls, the relative lack of differentiation of socialization practices, and the availability of uniformly maintained medical, developmental, and educational records. Results showed no differences in gender in reading level and reading readiness, in frequency of occurrence of reading disability, in maturational lag, in mixed dominance, nor in 12 selected indices of psychopathology in children. Tables of findings illustrate the text. (JMI)

Descriptors: Cerebral Dominance/ Elementary Education/ Maturation/ Physical Health/ *Reading Ability/ Reading Difficulty/ *Reading Research/ *Sex Differences

ED133086 PS009050

The Relationship Between Lateral Dominance and Divergent Cognitive Thought.

Williams, Barbara B.

Apr 76 15p.; Paper presented at the Annual Meeting of the Eastern Psychological Association (New York, New York, April 22-24, 1976)

EDRS Price MF-\$0.83 HC-\$1.67 Plus Postage.

This study was designed to explore the relationship of lateral dominance to divergent cognitive thought. According to the screening results of the Harris Tests of Lateral Dominance, 36 subjects ranging from 9-12 years were divided equally into three groups of left, right, and mixed lateral dominance. In order to measure divergent cognitive thought, the Torrance Tests of Creative Thinking, Verbal Tests, Form A and Figural Tests, Form A were administered and scores reported in terms of seven subscores of both verbal and figural fluency, flexibility and originality, and scores for figural elaboration only. A two-way analysis of variance procedure reported a significant difference existed between the lateral dominance of the individuals with regard to their mean scores on the Torrance Tests of Creative Thinking at the .01 level of confidence. In order to locate the exact source of variance, further investigation was necessary. A one-way

analysis of variance of the main effects was performed and results indicated that a significant difference existed within the two categories of verbal fluency and figural elaboration at the .05 level. That is, the group demonstrating left lateral dominance performed significantly better on those two subscores. (Author/MS)

Descriptors: *Cognitive Processes/ Creativity Tests/ *Divergent Thinking/ *Elementary Education/ *Elementary School Students/ *Lateral Dominance/ Literature Reviews/ Thought Processes/ Verbal Ability

Identifiers: *Brain Hemisphere Research/ Harris Test of Lateral Dominance/ Torrance Tests of Creative Thinking

ED132610# CS203133

Metaphor and Knowing: Analysis, Synthesis, Rationale.

Rico, Gabriele Lusser

76 321p.; Ph.D. Dissertation, Stanford University

Available from: University Microfilms, P.O. Box 1764, Ann Arbor, Michigan 48106 (Order No. 76-26,066, MF \$7.50, Xerography \$15.00)

Document Not Available from EDRS.

Evidence is presented to indicate that human knowing involves both a propositional mode stressing discourse, sequence, and logic and an appositional mode characterized by metaphoric constructs, holistic relationships, and the capacity to process many variables simultaneously. Separate sections discuss our culture's heavy emphasis on propositional knowing and the consequent neglect of appositional knowing; emerging evidence for an appositional mode, from philosophy, neurophysiology, and neuropsychology; the role of metaphor in appositional thought; developmental stages in the role of appositional thought in aesthetic and creative activities; and the implications for English curriculum development from kindergarten through university levels. (Author/AA)

Descriptors: Cerebral Dominance/ *Creative Thinking/ Developmental Stages/ Doctoral Theses/ Elementary Secondary Education/ *English Curriculum/ Higher Education/ Literature Reviews/ *Metaphors/ *Neurological Organization/ Theories/ *Thought Processes

ED131354 CG010901

An EEG Investigation of the Differences in the Hemispheric Specialization of Formal and Concrete Operational Persons.

Dilling, Richard A.; And Others

76 25p.; Paper presented at the Annual Meeting of the American Educational Research Association (San Francisco, California, April 19-23, 1976)

EDRS Price MF-\$0.83 HC-\$1.67 Plus Postage.

This study attempts to raise and answer the question as to whether lateral specialization of the brain could explain some of the differences in persons at different stages of intellectual development from birth to adulthood according to Piaget's theory of individual development via sequential, qualitatively different stages. Electroencephalographic measures were used as indicators of hemispheric specialization of concrete and formal persons. The brain activity of six concrete and seven formal subjects was monitored from the central and parietal regions of the cerebral cortex while the subjects were responding to mental tasks. Hemispheric asymmetry was determined by the ratios (left/right) of the alphas from homologous leads. Logarithmic ratios of formal subjects were greater than concrete subjects indicating more lateralization of function for formal persons, especially on the logic task. (Author/KS)

Descriptors: *Cerebral Dominance/ *Cognitive Development/ *Cognitive Measurement/ Concept Formation/ *Electroencephalography/ *Intellectual Development/ Mental Tests/ Physiology/ Specialization/ *Thought Processes/ Undergraduate Students

ED130778 PS008909

Hemispheric Dominance, Conservation Reasoning and the Dominant Eye.

Lawson, Anton E.; Wollman, Warren T.

California Univ., Berkeley. Lawrence Hall of Science.

Nov 75 21p.; Advancing Education Through Science-Oriented Programs, Report ID-21

Sponsoring Agency: National Science Foundation, Washington, D.C.

EDRS Price MF-\$0.83 HC-\$1.67 Plus Postage.

This study was based on the following assumptions: (1) functioning of the brain's left hemisphere, because of its logical, verbal mode, facilitates conservation reasoning; (2) functioning of the brain's right hemisphere, because of its nonverbal, spatial mode, inhibits conservation reasoning; (3) visual input from the left eye will reach the left visual cortex before it reaches the right visual cortex, thereby giving the left hemisphere priority and vice versa; and (4) eye dominance is caused by hemisphere dominance. In order to test the validity of these assumptions, a series of conservation tasks (number, substance, continuous quantity and weight) were administered to a group of 82 children. The following predictions were made: A group of children who view the conservation materials with their left eye and are left eye dominant (LL) will demonstrate a greater frequency of

conservation responses than a group of children who view the materials with their right eye and are right eye dominant (RR). A group of children who view with their left eye and are right eye dominant (LR) and a group of children who view with their right eye and are left eye dominant (RL), will demonstrate an intermediate frequency of conservation responses. The predicted sequence of LL>LR approximately equal to RL>RR was found. LL and RR group differences were significant ($z = 2.01$, $p = .02$). (Author/MS)

Descriptors: *Cerebral Dominance/ *Conservation (Concept)/ Elementary Education/ *Eyes/ Kindergarten Children/ Logical Thinking/ *Nonverbal Learning/ Research/ *Thought Processes/ *Visual Perception

Identifiers: *Hemisphere Dominance/ Piaget (Jean)

ED123861 EC090229

The Assessment of Cerebral Laterality: The Sherman-Kulhavy Laterality Assessment Inventory, Technical Report No. 4.

Sherman, Jay L.; Kulhavy, Raymond W.

Arizona State Univ., Tempe. Dept. of Educational Psychology.

Apr 76 33p.

EDRS Price MF-\$0.83 HC-\$2.06 Plus Postage.

The Sherman-Kulhavy Laterality Assessment Inventory (LAI), an instrument for determining cerebral laterality, was administered to 1,000 undergraduates to determine the ability of the LAI to discriminate between right- and left-dominant groups. Each S was administered the LAI, a 45-item verbal report instrument which assesses both fine and gross motor activities of the hands, arms, legs, and feet. For each S, three scores were computed: a total right score (derived from summing the number of right always and right mostly responses), a total left score (from left always and left mostly responses), and a relative dominance score (a ratio calculated from the first two scores). Results indicated that the LAI is a reliable and consistently accurate means of assessing cerebral laterality and that the LAI has an extremely high degree of predictive accuracy. (Statistical tables and graphs concerning the reliability, validity, and factor structure of the instrument are provided.) (SB)

Descriptors: *Cerebral Dominance/ *General Education/ Higher Education/ Prediction/ Research Projects/ *Statistical Data/ *Student Behavior/ Test Reliability

Identifiers: *Sherman Kulhavy Laterality Assessment Inventory

ED123580 CS002664

Information Processing Models of Reading. A Developmental Approach.

Mackworth, Jane F.

76 14p.; Paper presented at the Annual Meeting of the International Reading Association (21st, Anaheim, California, May 1976)

EDRS Price MF-\$0.83 HC-\$1.67 Plus Postage.

Reading requires the synthesis of auditory and visual skills and therefore involves almost all of the brain. Stages of reading include prereading skills (requiring an adequate spoken vocabulary), the ability to name letters and pictures, good memory for spoken sentences, and manual dexterity in copying patterns. Learning to read involves the ability to link the separate phonemes in a word with printed material. For most children, an auditory method is better than a visual one for teaching reading. Skilled reading depends on knowledge of word probabilities in speech and is characterized by the ability to transfer visual input into comprehension without the intervention of the speech system. The collaboration of the two sides of the brain is required for skilled reading. Poor readers may reflect right brain superiority and be more adept at visuo-spatially oriented disciplines. (Author/KS)

Descriptors: Beginning Reading/ *Cerebral Dominance/ *Cognitive Development/ Early Childhood Education/ *Early Reading/ Elementary Secondary Education/ Perceptual Development/ *Reading Development/ *Reading Processes/ *Reading Readiness/ Reading Research/ Reading Skills

ED121420 PS008447

Cerebral Assymetry: Changes in Factors Affecting Its Development.

Molfese, Dennis L.; And Others

Southern Illinois Univ., Carbondale.

Sep 75 33p.; Paper presented at the New York Academy of Sciences Conference on Origins and Evolution of Language and Speech (New York, New York, September 1975)

Sponsoring Agency: National Institutes of Health (DHEW), Bethesda, Md. Clinical Center.; Southern Illinois Univ., Carbondale. Office of Research and Projects.

EDRS Price MF-\$0.83 HC-\$2.06 Plus Postage

This study attempts to evaluate procedures for studying hemispheric differences in newborn human infants and to determine what acoustic characteristics of speech sounds will trigger a left hemisphere (LH) response. Within 48 hours of birth, 14 neonates were individually administered five aural stimuli which comprised two speech syllables, two nonspeech stimuli, and a 500 Hz tone. These stimuli were presented individually to the infants, and corresponding auditory evoked potentials (AEP) were measured by means of recording electrodes on left and right temporal areas of the infant's brain. Factor analysis was used to isolate the minimum number of AEP components which accounted for the majority of the variance. Four factors were found which together accounted for

96% of the variance. The results offer further evidence to support the idea that hemispheric differences are present during early infancy and that there are AEP differences between male and female infants. Although the study failed to demonstrate acoustic factors which trigger differential hemispheric responding, discrete components of the AEP responses were identified which were responsive to specific aspects of the acoustic stimuli. Information concerning temporal differences in the processing of these elements was also obtained. (GO)

Descriptors: *Age Differences/ *Aural Stimuli/ *Cerebral Dominance/ *Infants/ Neurological Organization/ *Sex Differences

Identifiers: *Brain/ Hemispheric Differences/ Neonates

ED119854 PS005426

Interaction of Experiential and Neurological Factors in the Patterning of Human Abilities: The Question of Sex Differences in 'Right Hemisphere' Skills.

Harris, Lauren Jay

13 Apr 75 36p.: Expanded version of paper presented at the Biennial Meeting of the Society for Research in Child Development (Denver, Colorado, April 13, 1975); For an additional paper presented at the symposium, see PS 008 425

EDRS Price MF-\$0.83 HC-\$2.06 Plus Postage

Sex differences in cerebral organization and functioning, and the apparent superiority of males in spatial ability are examined in this paper. Attention is given to several kinds of cognitive and perceptual tasks in which sex differences in spatial ability have been shown to exist; among these are tasks involving: (1) recall and detection of shapes, (2) geometry and mathematics, (3) directional sense, (4) Piagetian skills and (5) the game of chess. A neurological model for sex differences in spatial ability is discussed, which suggests that some brains are further specialized (lateralized) for spatial analysis than others, and that these "further specialized" brains are more frequently male than female. Medical research with war veterans who have suffered brain injuries, data from anatomical and clinical studies and results of testing of normal individuals are cited to suggest that the left hemisphere of the brain seems primarily organized for verbal function, the right hemisphere for visual-spatial functions. An alternative model for sex differences in spatial ability suggests that women prefer to code information phonologically (due to their earlier language development) and that men prefer to code information visually. Data are presented which support this view. The possibilities of evolutionary selection for male spatial superiority and the effects of sex steroid hormones on brain specialization and nervous system activity are considered. (BRT)

Descriptors: Adults/ Biological Influences/ Cognitive Development/ *Cognitive Processes/ Elementary Secondary Education/ Evaluation/ Individual Differences/ Language Development/ *Lateral Dominance/ Models/ *Neurological Organization/ *Perceptual Development/ Preschool Education/ *Sex Differences/ Visual Perception

Identifiers: *Spatial Perception

ED118271 PS008425

Functional Specialization of the Cerebral Hemispheres in Infants and Children: New Experimental and Clinical Evidence.

Harris, Lauren Jay

13 Apr 75 23p.: Paper presented at the Biennial Meeting of the Society for Research in Child Development (Denver, Colorado, April 13, 1975); For an additional paper presented at the symposium, see PS 008 426

EDRS Price MF-\$0.83 HC-\$1.67 Plus Postage

This paper presents background information, an introductory statement of theoretical positions, and brief abstracts of

research papers from a symposium on the functional specialization of cerebral hemispheres in infants and children. According to one view of the development of cerebral specialization, the two hemispheres are initially unspecialized, assuming their respective functions only with time and experience. The opposing view is that hemispheric specialization is a product of genetic endowment present, in some form, from the beginning of life. The five research papers summarized included some concrete evidence related to these views: (1) a study of hemispheric specialization for both speech and nonspeech sounds in infants; (2) a study of the relationship between the size of cerebral injury and the pattern of cognitive skills in adult patients who sustained brain injury during infancy; (3) an examination of hemispheric specialization for language in preschool and primary-grade children; (4) a study of hand specialization for shape discrimination in 3- to 13-year olds using the dichotic listening procedure for the haptic system; and (5) a discussion of the interaction of experiential and genetic factors in the patterning of cognitive abilities in normal individuals. (Author/JMB)

Descriptors: Aphasia/ Cerebral Dominance/ Cognitive Ability/ *Cognitive Processes/ Haptic Perception/ Lateral Dominance/ *Nature Nurture Controversy/ *Neurological Organization/ *Physiology/ *Theories

Identifiers: *Cerebral Specialization

ED116139 CS002303

Bulletin of the Orton Society, Volume 23.

Rawson, Margaret B., Ed.

Orton Society, Towson, Md.

73 229p.

Available from: The Orton Society, Inc., 8415 Bellona Lane, Towson, Md. 21204 (members \$4.00, nonmembers \$5.00, prepaid)

EDRS Price MF-\$0.76 HC-\$12.05 Plus Postage

This bulletin is published annually in the interest of children with specific language disabilities, learning disabilities or dyslexia. Articles in this issue deal with "Some Problems of the Ex-Dyslexic," "Hemispheric Specialization and Stages in the Learning-to-Read Process," "The International Scene," "Diagnosis and Treatment," "Semantics--Diagnostic Categories: Their Use and Misuse," "Personal and Social Studies," and "Books and Children--An Open Letter from a Mother to Her Married Children." Information about the Orton Society is presented. (MKM)

Descriptors: *Dyslexia/ Elementary Secondary Education/ Foreign Countries/ Language Development/ *Language Handicaps/ Lateral Dominance/ *Learning Disabilities/ *Perception/ Reading Diagnosis/ Reading Failure/ *Reading Instruction/ Remedial Reading

Identifiers: Orton Society

ED113971* FL007282

Is the Left Hemisphere Specialized for Speech, Language and/or Something Else?

Papcun, George; And Others

Feb 74 9p.

Available from: American Institute of Physics, 335 E. 45th St., New York, N.Y. 10017

Document Not Available from EDRS

Morse code signals were presented dichotically to Morse code operators and to naive subjects with no knowledge of Morse code. The operators showed right ear superiority, indicating left hemisphere dominance for the perception of dichotically presented Morse code letters. Naive subjects showed the same right ear superiority when presented with a set of dot-dash patterns restricted to pairs of seven or fewer elements, counting dots and dashes each as elements. When presented with longer stimuli, naive subjects showed left ear superiority, indicating right hemisphere dominance, the opposite of their result with the shorter stimuli. This seems to indicate that pairs consisting of seven or fewer elements are perceived with reference to the subparts of which they are composed, but that longer stimuli force naive subjects to adopt strategies involving the holistic qualities of the stimuli. It would seem, therefore, that the left hemisphere is specialized for processing the sequential parts of which a stimulus is composed. This research, in conjunction with other work on the topic, suggests that language is lateralized to the left hemisphere because of its dependence on segmental subparts, and that this dependence characterizes language perception as distinct from most other human perception. (Author/TL)

Descriptors: Auditory Perception/ Cerebral Dominance/ *Cognitive Processes/ Language Research/ *Lateral Dominance/ Linguistics/ Listening Tests/ *Neurolinguistics/ Neurological Organization/ *Perception Tests/ Perceptual Development/ *Psycholinguistics/ Speech

Identifiers: *Decoding (Speech)/ Dichotic Listening

ED113866 EC080100

A Neuro-Psychological Investigation into Dyslexia.

Newton, Margaret A.

70 9p.; Paper presented at the International Federation of Learning Disabilities (Second International Scientific Conference, Brussels, Belgium, January 3-7, 1975)

EDRS Price MF-\$0.76 HC-\$1.58 Plus Postage

Electroencephalographic studies were done on 25 dyslexic and 25 normal reading children (all between the ages of 8 and 13 years). Results indicated that, of dyslexic Ss showing evidence of unresolved dominance in the EEG recordings, 35 percent of cases were possibly genetically determined with a further 40 percent possibly neurologically impaired. Inter-group findings revealed differences in the amount of alpha activity in the two hemispheres with dyslexic Ss showing more activity on the dominant side or no difference at all, whereas controls showed more activity on the non-dominant

side. Findings suggested the presence of lateral dominance and cortical organization in the control group on normal readers and no comparable resolution of dominance in both the genetically and neurologically determined cases of dyslexia. (DB)

Descriptors: *Cerebral Dominance/ *Dyslexia/ *Electroencephalography/ Elementary Education/ Etiology/ Exceptional Child Research/ *Genetics/ Learning Disabilities/ *Neurology

ED113865 EC080099

Dyslexia as a Phenomenon of Written Language.

Newton, Margaret A.; Thomson, Michael E.

75 12p.; Paper presented at the International Federation of Learning Disabilities (Second International Scientific Conference, Brussels, Belgium, January 3-7, 1975)

EDRS Price MF-\$0.76 HC-\$1.58 Plus Postage

The nature of dyslexia is defined and reviewed in the context of neurological and educational processes and the nature of a written language system. An illustrative case history of a typical dyslexic child is presented. The nature of a script system is examined in the light of current linguistic and psycholinguistic studies. Noted are characteristics of the rule governed written language system such as scriptphonetic relationships. Stressed is the interface between the language system and maturational factors including unidirectional sensory and motor modes of perceiving. The incidence of dyslexia is related to the probabilities of individual differences in lateralization of brain function. It is concluded that dyslexia can be regarded as a primary difficulty based on the incompatibility between the written language system itself and the intrinsic developmental skills of an individual's perceptual motor system. (DB)

Descriptors: Cerebral Dominance/ Definitions/ *Dyslexia/ *Etymology/ Exceptional Child Education/ *Growth Patterns/ *Individual Differences/ Learning Disabilities/ Linguistics/ Maturation/ *Psycholinguistics

ED112646 FL007096

Language Dominance and Language Pathology.

Fox, Joseph P.; And Others

5 Nov 74 21p.; Paper presented at the Annual Meeting of the American Speech and Hearing Association (Las Vegas, Nevada, November 5, 1974); Not available in hard copy due to marginal reproducibility of original document

EDRS Price MF-\$0.76 Plus Postage. HC Not Available from EDRS.

Three objectives of research reported here were to describe the neural organization underlying language usage and language loss, to study activities occurring in both cerebral hemispheres, and to study neural changes related to changes in syntactic complexity of stimuli. A dichoptic procedure was chosen. A subject faced a viewing screen on which were flashed a fixation stimulus and two different short sentences, one on either side. The subjects were required to select a response picture appropriate to the sentences. Three subject groups were tested: (1) controls with no history of neurological damage; (2) a group of aphasic patients with unilateral left hemisphere brain damage; (3) a group with unilateral right hemisphere brain damage. The general conclusion was that the right hemisphere appears capable of processing some syntactically simple language stimuli; however, as stimuli become more complex, the left hemisphere may be necessary for comprehension. Testing involving cortical visually evoked responses recorded over both hemispheres simultaneously was conducted to see if visual AER's can be used to detect cortical language processing. It appears to be a useful means to study intra- and inter-hemispheric neural language systems. Charts and graphs illustrating research methods and findings are included. (CHK)

Descriptors: Aphasia/ *Cerebral Dominance/ Cognitive Processes/ Comprehension/ *Language Handicaps/ *Language Research/ Language Usage/ Learning Disabilities/ Linguistic Competence/ *Neurolinguistics/ Neurological Defects/ *Neurologically Handicapped/ Speech Pathology/ Visual Stimuli
Identifiers: Language Dominance/ Language Pathology

ED109639 CS002041

The Effects of Interactive Graphic Analogies on Recall of Concepts in Chemistry. Technical Report No. 75.

Rigney, Joseph W.; Lutz, Kathy A.

University of Southern California, Los Angeles. Dept. of Psychology.

May 75 64p.

Sponsoring Agency: Office of Naval Research, Washington, D.C. Personnel and Training Research Programs Office.

Report No.: TR-75

EDRS Price MF-\$0.76 HC-\$3.32 PLUS POSTAGE

Forty undergraduate college students participated in a computer-assisted instructional study designed to utilize right cerebral hemisphere functions in the learning and memory process. Two versions of a lesson on how a simple battery

works were designed to present conceptual and topographic information either verbally or pictorially on a Plato IV terminal. The unique feature of this terminal for studying imagery is that it can produce animated interactive graphics. The effects of the type of information presentation on learning and attitudinal outcomes were investigated. The lesson that incorporated animated graphics resulted in higher scores on recall tests of knowledge, comprehension, and application. Students found this lesson to be more attractive. Subjects in the treatment providing external imagery reported experiencing more internal imagery than did the group receiving the verbal version. (Recent research about the different information processing functions of the right and left cerebral hemispheres as they relate to imagery in learning and memory is reviewed.) (Author/MKM)

Descriptors: *Cerebral Dominance/ Chemistry Instruction/ *Computer Assisted Instruction/ Computer Graphics/ Concept Teaching/ Eye Movements/ Higher Education/ *Learning Processes / Memory/ *Nonverbal Learning/ Reading Processes/ Reading Research/ *Recall (Psychological)/ Verbal Learning/ Visual Aids

ED108659 IR002184

Mind, Languages, and Literacy.

Debes, John L., III

29 Nov 74 9p.; Paper presented at the Annual Convention of the National Council of Teachers of English (New Orleans, Louisiana, November 29, 1974)

EDRS Price MF-\$0.76 HC-\$1.58 PLUS POSTAGE

For the past 100 years we have been acting as if education in school was of words, by words, and for words, but in fact verbal literacy was preceded by visual literacy when humans communicated with body language before they had speech. American educators have been concentrating efforts on the left hemisphere of the brain in which the verbal language skills, including reading and writing, develop and ignoring the right hemisphere of the brain in which visual sequencing, visual literacy, and visual patterning develop. Quite by accident, television has begun to cultivate the right side of the brain. That this may be so was discovered when Dr. Robert Thorndyke and others began to revalidate the Stanford-Binet IQ test, and it was found that the IQ of children changes, rising sharply at about age 2 when children begin paying attention to television and declining at age of 5 1/2 when children begin school and are pressed in the direction of verbal activities and forced away from the visual activities in which they have become skilled. Programs in several schools have shown that training in visual skills can produce a marked increase in verbal skills. (KKC)

Descriptors: *Cerebral Dominance/ Intellectual Development/ Intelligence Quotient/ Language Ability/ Language Research/ *Learning Modalities/ Mental Development/ Neurological Organization/ Nonverbal Ability/ Perceptual Development/ Reading Ability/ Reading Research/ *Television Viewing/ *Verbal Ability/ Visual Learning/ *Visual Literacy

ED107160# FL006939

Heterogeneity in Language and Speech: Neurolinguistic Studies. Working Papers in Phonetics, No. 29.

Van Lancken, Diana

California Univ., Los Angeles. Phonetics Lab.

Apr 75. 220p.

Available from: Xerox University Microfilms, 300 North Zeeb Road, Ann Arbor, Michigan 48106

Document Not Available from EDRS.

This monograph investigates aspects of language processing that are not specialized in the left hemisphere, and claims that there are "levels" (such as pitch functions) and "subsets" (such as phrase structuring) which are different in essential ways from each other, and from the aspects of speech and language which are typically lateralized. Chapter 1 presents the assumptions that underlie the rest of the monograph: that varieties of evidence are valuable to the formulation of models of language; and that hypotheses about language should be not only testable, but tested. The claim is made that neurolinguistics provides one such context for

hypothesis-testing. Neurophysiological foundations for studies of language and speech in the brain are surveyed; and facts are presented about hemispheric specialization for language. It is claimed that some functions of pitch in speech are not specialized in the language hemisphere, and evidence is presented for cerebral processing of pitch. A description follows of types of speech performance more or less affected by brain damage, and a series of dichotic listening studies on "automatic" speech are described. Finally, it is concluded that speech is made up of graded, heterogeneous subclasses and that, therefore, continua are needed in descriptive models of language. A 54-page bibliography is provided. (Author/AM)

Descriptors: Aphasia/ *Cerebral Dominance/ *Cognitive Processes/ Communication (Thought Transfer)/ Grammar/ Hypothesis Testing/ Intonation/ Language Research/ Lateral Dominance/ *Linguistic Theory/ *Neurolinguistics/ Neurological Organization/ Phrase Structure/ *Psycholinguistics/ Suprasegmentals/ Thai/ Tone Languages

ED104112 EC072227

The Combined Use of Hypnosis and Sensory and Motor Stimulation in Assisting Children with Developmental Learning Problems.

Jampolsky, Gerald G.

Child Center Annex, Tiburon, Calif.

Nov 69 23p.; Paper presented at the American Society of Clinical Hypnosis (12th, San Francisco, California, November 1, 1969); Not available in hard copy due to marginal legibility of original document

EDRS Price MF-\$0.76 HC Not Available from EDRS..PLUS POSTAGE

Hypnosis was combined with sensory and motor stimulation to remediate reversal problems in five children (6 1/2-9-years-old). Under hypnosis Ss were given the suggestion that they learn their numbers through feel and then given 1 hour of structured instruction daily for 10 days. Instruction stressed conditioning, vibratory memory, touch memory, and muscle memory and resulted in a decrease in reversal errors by children in the experimental group from 10 errors to 0 errors, while errors of the control group increased from 8 errors to 10 errors. Results suggested the possible benefits of vibratory furniture and hypnosis for young children and the possibility that childhood schizophrenia may be viewed as a severe perceptual problem. (DB)

Descriptors: Childhood/ Exceptional Child Research/ Hypnosis / *Kinesthetic Perception/ Lateral Dominance/ *Learning Disabilities/ *Sensory Training/ *Tactual Perception

ED081766 SP006915

Case Studies in the Development of One-Handed Striking.
Harper, Christine J.; Struna, Nancy L.
Wisconsin Univ., Madison. Dept. of Physical Education.
Apr 73 6p.; A report to the Research Section, National
Convention of the American Association for Health, Physical
Education and Recreation (Minneapolis, April, 1973)
Sponsoring Agency: Wisconsin Alumni Research Foundation,
Madison.

EDRS Price MF-\$0.76 HC-\$1.58 PLUS POSTAGE

This report describes the movement characteristics of a three year old boy and girl as they performed a one-handed striking task over a one year period. Observations were made at 4 month intervals as part of a filmed, longitudinal study on the development of motor patterns. The one-handed striking pattern was elicited by asking the children to hit a suspended ball as hard as possible toward a wall. Over a year's time the girl's pattern changed from a) no weight shift to a shift of weight with a step toward the ball, and b) from initiation of the motion with horizontal adduction of the striking arm to initiation of the motion using simultaneous pelvic and spinal rotation. Two major changes observed in the boys pattern were a) progressively longer stride toward the ball and b) a progressively greater pelvic and spinal rotation. (Additional movement characteristics are observed and noted.) (Author/JB)

Descriptors: Development/ Lateral Dominance/ Maturation/
*Motor Development/ *Muscular Strength/ *Physical Development/
*Physical Education

ED080163 FS006647

Neurophysiological Factors in Spatial Development.
Harris, Lauren Jay
Michigan State Univ., East Lansing. Dept. of Psychology.
31 Mar 73 18p.; Paper presented at the biennial meeting of
the Society for Research in Child Development (Philadelphia,
Pa., March 31, 1973)

EDRS Price MF-\$0.76 HC-\$1.58 PLUS POSTAGE

Some of the major lines of investigation that point to neurophysiological factors in spatial skill are presented. These lines include: the two hemispheres of the brain, recent studies, tachistoscopic studies, morphological differences between the cerebral hemispheres, Geschwind and Levitsky's discovery, cerebral dominance re-examined, sex differences in spatial ability, neuroanatomical basis for sex differences, a model for conceptualizing the effect of differential language lateralization on sex differences in spatial ability, and left-handedness and spatial ability. Further research is recommended. (CK)

Descriptors: *Cerebral Dominance/ *Lateral Dominance/
Literature Reviews/ *Neurological Organization/ Neurology/
Perceptual Development/ Physiology/ Research Needs/ Sex
Differences/ Space Orientation/ Speeches

Identifiers: *Spatial Development

ED079433 TM003038

An Attempt to Obtain Replicate Learning Curves.
Gulliksen, Harold; Voneida, Theodore
Educational Testing Service, Princeton, N.J.
Jun 73 59p.

Sponsoring Agency: National Inst. of Child Health and Human
Development (NIH), Bethesda, Md.; National Inst. of Mental
Health (DHEW), Bethesda, Md.; National Science Foundation,
Washington, D.C.; Office of Naval Research, Washington, D.C.
Personnel and Training Research Programs Office.

Report No.: ETS-RB-73-46

EDRS Price MF-\$0.76 HC-\$3.32 PLUS POSTAGE

Sperry (1961) and others working on split brain learning reported that the two halves function in a nearly identical manner, giving excellent controlled replication of a learning problem. The present experiments were carried out with cats trained in a tactile discrimination apparatus, sometimes being forced to use the left paw, and sometimes being forced to use the right paw. The data were analyzed in terms of parameters of the Audley-Jonckheere (1956) learning model and also in terms of the conventional measures of total trials, total correct responses and total errors to criterion. Varying results have been reported in the literature. Possibly there are some conditions under which first and second brain learning results agree (replications), others under which they are related randomly and still others under which there is transfer from one half brain to the other. If limited conditions can be clearly defined under which replication will occur, then an investigation of learning curve theories through replication by brain experiments would be possible. (Author/CK)

Descriptors: *Cerebral Dominance/ *Discrimination Learning/
*Lateral Dominance/ *Learning Processes/ Learning Theories/
Literature Reviews/ Models/ Problem Solving/ Sensory Training/
*Tactual Perception/ Technical Reports

ED079363 1M002962

Effects of Verbal and Spatial Questions on Initial Gaze Shifts.

Ehrlichman, Howard; And Others

Educational Testing Service, Princeton, N.J.

Mar 73 44p.

Report No.: ETS-RB-73-21

EDRS Price MF-\$0.76 HC-\$1.95 PLUS POSTAGE

The direction of subjects' first gaze shift following questions designed to elicit verbal-linguistic or visuo-spatial processing was examined in three experiments under video camera and face-to-face interview conditions. In all three experiments, verbal questions elicited significantly more downward gaze shifts than spatial questions. However, previous findings that verbal questions elicited more rightward gaze shifts than spatial questions were not replicated. These results appear to be incompatible with theories linking direction of gaze shifts with the functional asymmetry of the cerebral hemispheres. It was also observed that trials on which no gaze shifts were elicited occurred more often for spatial than for verbal questions. (Author)

Descriptors: *Cerebral Dominance/ *Cognitive Processes/ *Eye Movements/ *Motor Reactions/ Neurological Organization/ Questioning Techniques/ Technical Reports/ Verbal Stimuli/ Visual Stimuli

ED077171 EC052037

SPLASH Down to Reading.

Hoopes, Amy T.

73 13p.

EDRS Price MF-\$0.76 HC-\$1.58 PLUS POSTAGE

Research into visual, perceptual, and motor coordination suggests that the kind of physical activity and coordination involved in swimming might prevent some cases of dyslexia and improve the academic performance of many learning disabled children. Early neurological development shows a relationship among the creeping period, later communication skills, and visual coordination. Failure to develop bilaterality during the creeping stage may be related to eventual reading problems. Swimming demands of the child the mastery of neurological activities he may have missed earlier. Swimming provides the patterning experiences suggested by Carl Delacato and Glenn Doman in an atmosphere of fun. Improved swimming skills have been observed to parallel academic improvement. Instructional pools should be constructed in all elementary schools. (DB)

Descriptors: Childhood/ *Dyslexia/ *Exceptional Child Education/ Lateral Dominance/ *Learning Disabilities/ Neurology/ Perceptually Handicapped/ *Perceptual Motor Coordination/ Physical Education/ *Swimming

The Pleasures of Self-Talk.

Brown, Charles T.

Apr 73 9p.; Paper presented at the Annual Meeting of the Central States Speech Assn. (Minneapolis, April 7, 1973)

EDRS Price MF-\$0.76 HC-\$1.58 PLUS POSTAGE

The pleasures and benefits of talking to one's self are presented in the context of self-understanding. The types of "self-talk" noted are writing, the trying out of future conversations to one's self, and soliloquizing before groups of people. Furthermore, speculation about the relation of the right and left hemispheres of the brain and communication between the two is offered. Work by John Lilly is used to delineate the various sophisticated levels of "self-talk" as self-consciousness, "the level of competence," critical awareness, and awareness of the "god-like side of our lives." (CH)

Descriptors: Cerebral Dominance/ *Cognitive Development/ *Communication (Thought Transfer)/ *Emotional Development/ Inner Speech (Subvocal)/ Language Development/ Mysticism/ Neurological Organization/ Psychology/ *Self Evaluation

Identifiers: *Lilly (John)

ED077042 CS500265

Postscript

The Educational Resources Information Center/Early Childhood Education Clearinghouse (ERIC/ECE) is one of a system of 16 clearinghouses sponsored by the National Institute of Education to provide information about current research and developments in the field of education. The clearinghouses, each focusing on a specific area of education (such as early childhood, teacher education, languages and linguistics), are located at universities and institutions throughout the United States.

Each clearinghouse staff searches systematically to acquire current, significant documents relevant to education. These research studies, speeches, conference proceedings, curriculum guides, and other publications are abstracted, indexed and published in Resources in Education (RIE), a monthly journal. RIE is available at libraries, or may be ordered from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Another ERIC publication is Current Index to Journals in Education (CIJE), a monthly guide to periodical literature which cites articles in more than 700 journals and magazines in the field of education. Articles are indexed by subject, author, and journal contents. CIJE is available at libraries, or by subscription from Macmillan Information, 909 Third Avenue, New York 10022.

The Early Childhood Education Clearinghouse (ERIC/ECE) distributes a quarterly newsletter which reports on new programs and publications and RIE documents of special interest. For a complete list of ERIC/ECE publications, or if you would like to subscribe to the Newsletter, write: ERIC Clearinghouse/Early Childhood Education, University of Illinois, 805 West Pennsylvania Avenue, Urbana, Illinois 61801.

HOW TO ORDER ERIC DOCUMENTS

Order documents by ED number, specifying whether you want hard copy (HC), which is a photocopy of the original, or microfiche (MF) which is a transparent film card containing up to 98 pages of text.

Document prices given in Resources in Education (RIE) are subject to change. The current price schedule is provided below.

Microfiche (MF)

<u>Number Fiche Each ED #</u>	<u>Price</u>
1 to 5	\$.83
6	1.00
7	1.16
8	1.33
Each additional microfiche	.167*

Paper Copy (HC)

<u>Number Pages Each ED #</u>	<u>Price</u>
1 to 25	\$1.67
26 to 50	2.06
51 to 75	3.50
76 to 100	4.67
Each additional 25 pages	1.34

*Total price should be rounded to nearest cent.

Prices shown do not include postage, which must be added to all orders. Book rate: 30¢ for first pound (one pound is approximately 75 microfiche or 75 hard copy pages); 11¢ per pound increment over first pound. (First class or air mail postage is available at additional cost.) Send order and check to:

ERIC Document Reproduction Service
Computer Microfilm International
P.O. Box 190
Arlington, VA 22210

THE ERIC CLEARINGHOUSES

CAREER EDUCATION

Center for Vocational Education
Ohio State University
1960 Kenny Road
Columbus, Ohio 43210
(614) 486-3655

COUNSELING AND PERSONNEL SERVICES

The University of Michigan
School of Education Building
Room 2108, East Univ. & South Univ.
Ann Arbor, Michigan 48109
(313) 764-9492

*EARLY CHILDHOOD EDUCATION

University of Illinois
805 West Pennsylvania Avenue
Urbana, Illinois 61801
(217) 333-1386

EDUCATIONAL MANAGEMENT

University of Oregon
Eugene, Oregon 97403
(503) 686-5043

HANDICAPPED AND GIFTED CHILDREN

The Council for Exceptional Children
1920 Association Drive
Reston, Virginia 22091
(703) 620-3660

HIGHER EDUCATION

George Washington University
1 Dupont Circle, Suite 630
Washington, D.C. 20036
(202) 296-2597

INFORMATION RESOURCES

Syracuse University
School of Education
Syracuse, New York 13210
(315) 423-3640

JUNIOR COLLEGES

University of California
96 Powell Library Building
Los Angeles, California 90024
(213) 825-3931

LANGUAGES AND LINGUISTICS

Center for Applied Linguistics
1611 North Kent Street
Arlington, Virginia 22209
(703) 528-4312

READING AND COMMUNICATION SKILLS

1111 Kenyon Road
Urbana, Illinois 61801
(217) 328-3870

RURAL EDUCATION AND SMALL SCHOOLS

New Mexico State University, Box 3AP
Las Cruces, New Mexico 88003
(505) 646-2623

SCIENCE, MATHEMATICS, AND ENVIRONMENTAL EDUCATION

Ohio State University
1200 Chambers Road, Third Floor
Columbus, Ohio 43212
(614) 422-6717

SOCIAL STUDIES/SOCIAL SCIENCE EDUCATION

855 Broadway
Boulder, Colorado 80302
(303) 492-8434

TEACHER EDUCATION

1 Dupont Circle N.W., Suite 616
Washington, D.C. 20036
(202) 293-7280

TESTS, MEASUREMENT, AND EVALUATION

Educational Testing Service
Princeton, New Jersey 08540
(609) 921-9000, Ext. 2176

URBAN EDUCATION

Teachers College
Box 40
Columbia University
New York, New York 10027
(212) 678-3438

*ERIC/ECE is responsible for research documents on the social, psychological, physical, educational, and cultural development of children from the prenatal period through pre-adolescence (age 12). Theoretical and practical issues related to staff development, administration, curriculum, and parent/community factors affecting programs for children of this age group are also within the scope of the clearinghouse.